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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,738	07/30/2004	Brian Messenger	FIS920040004	4737

23389 7590 10/13/2005

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GARDEN CITY, NY 11530

EXAMINER
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HAFIZ, MURSALIN B

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/710,738

Applicant(s)

MESSENGER ET AL.

Examiner

Mursalin B. Hafiz

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 7-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/30/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of claims 1-6 in the reply filed on August 29, 2005 is acknowledged.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over 'background of invention' of the patent application 10/710738 in view of Wu (US 6,499,888 B1) and Sophie et al (US 6,878,628 B2).

Regarding claim 1, applicant discloses in the 'background of invention', a semiconductor structure comprising:

- a doped semiconductor substrate [CMOS];
- an epi Si layer located on a portion of said doped semiconductor substrate;
- a gate region located on said epi Si layer; and
- a strained SiGe layer located on said doped semiconductor substrate adjacent to said epi Si layer and said gate region, said strained SiGe layer serving as a raised layer for source/drain diffusion regions [paragraph 0003].

The 'background of invention' does not teach a monolayer comprising carbon and oxygen located on a surface of the doped semiconductor substrate. In this particular invention the applicant is trying to solve the over etching of silicon. Whereas this problem have been solved long time ago. In this invention the monolayer is an etch stop layer to prevent the over etching of Silicon. Wu teaches etch stop that is used to control the etch depth [column 6 line 3], but Wu does not teach explicitly that etch stop layer comprises carbon and oxygen. However, Sophie teaches "while etch stop layers have traditionally been silicon nitride....more recently silicon carbide and silicon oxycarbide have been employed" [column 2 line 26]. So, it would have been obvious to one of ordinary skills in the art at the time of the invention to use monolayer (etch stop) comprising carbon and oxygen to control the etch depth of silicon.

Regarding claim 2, 'background of invention' discloses that the doped semiconductor substrate comprises a silicon-on-insulator (SOI) layer of an SOI substrate [paragraph 0002].

Regarding claim 3, SOI layer having a thickness from about 10 nm to about 120 nm is not only well known in the art it is merely a design optimization choice.

Regarding claim 4, 5 and 6, 'background of invention' discloses that the device is a CMOS device. It is inherent that CMOS device substrate has either n-type dopant or p-type dopant. It is also inherent that gate region comprises a gate dielectric, a gate electrode overlaying the gate dielectric and at least one spacer located on a sidewall of said electrode.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mursalin B. Hafiz whose telephone number is 571-272-0237. The examiner can normally be reached on m-f 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mbh

  
GEORGE ECKERT  
PRIMARY EXAMINER